

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: October 19, 2001, 14:44:29 ; Search time 12.27 Seconds
(without alignments)
347.368 Million cell updates/sec

Title: US-09-487-792-2
Perfect score: 1101
Sequence: 1 MSTKPDWIKCLWLEILMGI.....VEIRCLYFYKFTALFRK 207

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 197339 seqs, 20590346 residues

Total number of hits satisfying chosen parameters: 197339

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

- Issued Patents_AA:*
- 1: /cgn2_6/ptodata/2/1aa/5A_COMB.pep:*
 - 2: /cgn2_6/ptodata/2/1aa/5B_COMB.pep:*
 - 3: /cgn2_6/ptodata/2/1aa/6A_COMB.pep:*
 - 4: /cgn2_6/ptodata/2/1aa/6B_COMB.pep:*
 - 5: /cgn2_6/ptodata/2/1aa/PCTUS_COMB.pep:*
 - 6: /cgn2_6/ptodata/2/1aa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	246.5	22.4	187	1	US-08-026-758-22
2	246.5	22.4	187	4	US-09-206-903A-9
3	246.5	22.4	187	6	5514567-1
4	245.5	22.3	187	3	US-08-912-768-3
5	245.5	22.3	187	6	5326859-1
6	239.5	21.8	195	1	US-08-249-671A-9
7	238.5	21.7	195	4	US-09-206-903A-8
8	236	21.4	195	1	US-08-438-753B-12
9	236	21.4	195	1	US-08-443-883A-12
10	236	21.4	195	2	US-08-631-328-12
11	236	21.4	195	2	US-08-455-524B-12
12	236	21.4	195	2	US-08-455-021B-12
13	236	21.4	195	4	US-09-045-467-12
14	235.5	21.4	172	1	US-08-438-753B-2
15	235.5	21.4	172	1	US-08-443-883A-2
16	235.5	21.4	172	2	US-08-631-328-2
17	235.5	21.4	172	2	US-08-455-524B-2
18	235.5	21.4	172	2	US-08-455-021B-2
19	235.5	21.4	172	4	US-09-045-467-2
20	235.5	21.4	172	4	US-08-954-395A-18
21	232	21.1	162	3	US-09-205-264-3
22	231.5	21.0	195	1	US-08-438-753B-32
23	231.5	21.0	195	1	US-08-443-883A-32
24	231.5	21.0	195	2	US-08-631-328-32
25	231.5	21.0	195	2	US-08-455-524B-32
26	231.5	21.0	195	2	US-08-455-021B-32
27	231.5	21.0	195	4	US-09-045-467-32

28 229.5 20.8 199 6 5510472-9
29 228.5 20.8 172 1 US-08-438-753B-4
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40 228.5 20.8 172 4 US-09-045-467-44
41 225 20.4 172 1 US-08-438-753B-34
42 225 20.4 172 1 US-08-443-883A-34
43 225 20.4 172 2 US-08-631-328-34
44 225 20.4 172 2 US-08-455-524B-34
45 225 20.4 172 2 US-08-455-021B-34

ALIGNMENTS

RESULT 1
US-08-026-758-22
; Sequence 22, Application US/08026758
; Patent No. 5780021
; GENERAL INFORMATION:
; APPLICANT: SOBEL, DOUGLAS O.
; TITLE OF INVENTION: A METHOD FOR TREATING AUTOIMMUNE
; DISEASES USING ALPHA-INTERFERON AND/OR BETA-INTERFERON
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBION, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. Jefferson Davis Highway, Suite 400
; CITY: Arlington
; STATE: Virginia
; COUNTRY: U.S.A.
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/026,758
; FILING DATE: 19930305
; CLASSIFICATION: 424
; ATTORNEY/AGENT INFORMATION:
; NAME: Obion, No. 5780021man F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 1126-096-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 413-3000
; TELEFAX: (703) 413-2220
; TELEX: 248855 OPAT UR
; INFORMATION FOR SEQ ID NO: 22:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 187 amino acids
; TYPE: amino acid
; TOPOLOGY: unknown
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Protein
; LOCATION: 22..187
; OTHER INFORMATION: /note= "Hu-IFN-beta"
US-08-026-758-22

Query Match 22.4%; Score 246.5; DB 1; Length 187;
Best Local Similarity 32.9%; Pred. No. 7.9e-19;
Matches 68; Conservative 26; Mismatches 84; Indels 29; Gaps 5;

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RESULT 3
5514567-1
; Patent No. 5514567
; APPLICANT: SUGANO, HARUO; MURAMATSU, MASAMI; TANIGUCHI,
; TADATSUGU
; TITLE OF INVENTION: DNA AND RECOMBINANT PLASMID
; NUMBER OF SEQUENCES: 5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/400,179
; FILING DATE: 06-MAR-1995
; PRIOR APPLICATION DATA:

```

ADDRESSEE: James F. Haley, Jr.
STREET: Fish & Neave, 1251 Avenue of the Americas
CITY: New York
STATE: New York
COUNTRY: USA
ZIP: 10020-1104
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/912,768
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/475,774
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Haley Jr., James F
REGISTRATION NUMBER: 27,794
REFERENCE/DOCKET NUMBER: B179
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 596-9000
TELEFAX: (212) 596-9090
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 187 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein

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; SEQUENCE CHARACTERISTICS:
; LENGTH: 195 amino acids
; Type: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; ORIGINAL SOURCE:
; INDIVIDUAL ISOLATE: predicted amino acid coding sequence
; INDIVIDUAL ISOLATE: of SEQ ID NO:11 (HuIFNtau1).
US-08-443-883A-12

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Query Match 21.4%; Score 236; DB 1; Length 195;
Best Local Similarity 35.0%; Pred. No. 1.le-17;
Matches 64; Conservative 28; Mismatches 73; Indels 18; Gaps 4;

Qy	14	LEILMGTFIAG---TSLDNCNLNVHLRVVTWQNLRLHLSMSNSFPVCECLRENIAPELPQ	70
Db	5	LSLIMALVLSYGPGGSLGCDLSQNHV-LVGRKNLRLDDEMRLSPRFCLQDRKDFALPQ	63
Qy	71	EFLLQYQTPMKRDIKKAIFYEMSLQAFNIF-SQHTFKYKWERHLKQIQIGLDQQAEXLNCQL	129
Db	64	EMVEGGQLQEAQISVLHEMLQSGFLNFTFHESSAWDTTLEQLRTGHLHQQLDNIDACL	123
Qy	130	EEDENENEDMKENEMKPSPEARVPQLSSLEULRVFYFRIDNFKKGYSDCAWEIVRYE	189
Db	124	GOVNGEED-----SALGRGTPTALKRVFQGIHVYLKEKGYSDCAWEIVRYLE	170
Qy	190	IRR	192
Db	171	IMR	173

RESULT 10
 US-08-631-328-12
 ; Sequence 12, Application US/08631328
 ; Patent No. 5939286
 ; GENERAL INFORMATION:
 ; APPLICANT: Johnson, Howard M.
 ; APPLICANT: Pontzer, Carol H.
 ; APPLICANT: Subramaniam, Prem S.
 ; TITLE OF INVENTION: Hybrid Interferon Compositions and
 ; TITLE OF INVENTION: Methods of Use
 ; NUMBER OF SEQUENCES: 55
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Dehlinger & Associates
 ; STREET: 350 Cambridge Ave., Suite 250
 ; CITY: Palo Alto
 ; STATE: CA
 ; COUNTRY: USA
 ; ZIP: 94306
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.25
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/631,328
 ; FILING DATE: 12-APR-1996
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 08/438,753
 ; FILING DATE: 10-MAY-1995
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Sholtz, Charles K.
 ; REGISTRATION NUMBER: 38,615
 ; REFERENCE/DOCKET NUMBER: 5600-0001.34
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 415-324-0880
 ; TELEFAX: 415-324-0960
 ; INFORMATION FOR SEQ ID NO: 12:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 195 amino acids
 ; TYPE: amino acid

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; TOPOLOGY: linear
; MOLECULE TYPE: protein
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; ORIGINAL SOURCE:
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; INDIVIDUAL ISOLATE: predicted amino acid coding sequence
; INDIVIDUAL ISOLATE: of SEQ ID NO:11 (HuIRNtaul).
US-08-631-328-12

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Query Match	21.4%	Score 236;	DB 2;	Length 195;
Best Local Similarity	35.0%;	Pred. No. 1.le-17;		
Matches 64;	Conservative 28;	Mismatches 73;	Indels 18;	Gaps 4;

Qy	70
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Dd	5
LSDLMAVLVSYPGGSGLGCDLSQHVV-LVGRKNLRLLDEMRLSPRFCLQDRKDFALPQ	63
Qy	71
EFLQYTPMKRDIKKAFYEMSLQAFNIYF-SOHTFYKYWKERHLKQIQIGLQQQAAYLNQC	129
Dd	64
EMVGEGGLOEAAQATSVLIHEMLQQSFNLPHTEHSSAAMDPTLLQLRTGLHQOLDNDACL	1233
Qy	130
BEDENEDNMKENEMKPSEARVPOLSSLLELRYPHRIDNFLKEKKYSDCAEWIVRVE	189
Dd	124
GQVMGEED-----SALGRGTPTALKRKRYPGTHVYLKEKGYSDCAEWTVRLE	170
Qy	190
IRR	192
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Dd	171
IMR	173

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; ATTORNEY/AGENT INFORMATION:
; NAME: Sholtz, Charles K.
; REGISTRATION NUMBER: 38,615
; REFERENCE/DOCKET NUMBER: 5600-0001.32
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415-324-0880
; TELEFAX: 415-324-0960
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 195 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; ORIGINAL SOURCE:
; INDIVIDUAL ISOLATE: predicted amino acid coding sequence
; INDIVIDUAL ISOLATE: of SEQ ID NO:11 (HuIFNtau).
US-08-455-524B-12

Query Match 21.4%; Score 236; DB 2; Length 195;
Best Local Similarity 35.0%; Pred. No. 1.1e-17;
Matches 64; Conservative 28; Mismatches 73; Indels 18; Gaps 4;

QY 14 LEILMGIFAG---TSLDCLNLLNVHLRVVTWQNLRLHSSMSNFPVECLRENIAFELPQ 70
Db 5 LSLMLALVSVYGGGSLGCDLSQNHV-LVGRKNLRLDDEMRRLSPRFCLQDRKDFALPQ 63

QY 71 EFLQYTPMKRDIKAFYEMSLQAFNIF-SQHTFKYKWERHLKQIQIGLDQQAQAEYLNQCL 129
Db 64 EMVEGGQLQEAQAISVLHEMLQOSFNLFHTESSAAWDTTLLEQLRTGLHQQLDNLDA 123

QY 130 EEDENEDMKEMKENMKPSEARVPQLSSLELRRYFHRIDNLFKKEKYSDCAWETVRLE 189
Db 124 GQVMEED-----SALGRGTPLALKRYFGIHHVYLKKEGYSDCAWETVRLE 170

QY 190 IRR 192
Db 171 IMR 173

RESULT 12
US-08-455-021B-12
; Sequence 12, Application US/08455021B
; GENERAL INFORMATION:
; APPLICANT: Bazer, Fuller W.
; APPLICANT: Johnson, Howard M.
; APPLICANT: Pontzer, Carol H.
; APPLICANT: Ott, Troy L.
; APPLICANT: Van Hecke, Gino
; APPLICANT: Imakawa, Kazuhito
; TITLE OF INVENTION: Interferon Tau Compositions and
; TITLE OF INVENTION: Methods of Use
; NUMBER OF SEQUENCES: 44
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Dehlinger & Associates
; STREET: 350 Cambridge Ave., Suite 250
; CITY: Palo Alto
; STATE: CA
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; FILING DATE: 31-MAY-1995
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/139,891
; FILING DATE: 19-OCT-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 09/045,467
; FILING DATE: Filed herewith

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; APPLICATION NUMBER: US 07/847,741
; FILING DATE: 09-MAR-1992
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/318,050
; FILING DATE: 02-MAR-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/969,890
; FILING DATE: 30-OCT-1992
; ATTORNEY/AGENT INFORMATION:
; NAME: Sholtz, Charles K.
; REGISTRATION NUMBER: 38,615
; REFERENCE/DOCKET NUMBER: 5600-0001.31
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415-324-0880
; TELEFAX: 415-324-0960
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 195 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; ORIGINAL SOURCE:
; INDIVIDUAL ISOLATE: predicted amino acid coding sequence
; INDIVIDUAL ISOLATE: of SEQ ID NO:11 (HuIFNtau).
US-08-455-021B-12

Query Match 21.4%; Score 236; DB 2; Length 195;
Best Local Similarity 35.0%; Pred. No. 1.1e-17;
Matches 64; Conservative 28; Mismatches 73; Indels 18; Gaps 4;

QY 14 LEILMGIFAG---TSLDCLNLLNVHLRVVTWQNLRLHSSMSNFPVECLRENIAFELPQ 70
Db 5 LSLMLALVSVYGGGSLGCDLSQNHV-LVGRKNLRLDDEMRRLSPRFCLQDRKDFALPQ 63

QY 71 EFLQYTPMKRDIKAFYEMSLQAFNIF-SQHTFKYKWERHLKQIQIGLDQQAQAEYLNQCL 129
Db 64 EMVEGGQLQEAQAISVLHEMLQOSFNLFHTESSAAWDTTLLEQLRTGLHQQLDNLDA 123

QY 130 EEDENEDMKEMKENMKPSEARVPQLSSLELRRYFHRIDNLFKKEKYSDCAWETVRLE 189
Db 124 GQVMEED-----SALGRGTPLALKRYFGIHHVYLKKEGYSDCAWETVRLE 170

QY 190 IRR 192
Db 171 IMR 173

RESULT 13
US-09-045-467-12
; Sequence 12, Application US/09045467
; Patent No. 6174996
; GENERAL INFORMATION:
; APPLICANT: Johnson, Howard M.
; APPLICANT: Pontzer, Carol H.
; TITLE OF INVENTION: Interferon Tau Compositions and
; TITLE OF INVENTION: Methods of Use
; NUMBER OF SEQUENCES: 44
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Dehlinger & Associates
; STREET: 350 Cambridge Ave., Suite 250
; CITY: Palo Alto
; STATE: CA
; COUNTRY: USA
; ZIP: 94306
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US 09/045,467
; FILING DATE: Filed herewith

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Query Match 21.4%; Score 236; DB 4; Length 195;
Best Local Similarity 35.0%; Pred. No. 1.1e-17;
Matches 64; Conservative 28; Mismatches 73; Indels 18; Gaps 4;

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RESULT 14
US-08-438-753B-2
; Sequence 2, Application US/08438753B
; Patent No. 5705363
; GENERAL INFORMATION:
; APPLICANT: Imakawa, Kazuhito
; TITLE OF INVENTION: Interferon-tau Compositions and
; TITLE OF INVENTION: Methods of Use
; NUMBER OF SEQUENCES: 44
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Dehlinger & Associates
; STREET: 350 Cambridge Ave., Suite 250
; CITY: Palo Alto
; STATE: CA

```

Query Match 21.4%; Score 235.5; DB 1; Length 172;
Best Local Similarity 31.8%; Pred. No. 1e-17;
Matches 57; Conservative 34; Mismatches 55; Indels 33; Gaps 4;

	Query Match	21.4%;	Score 235.5;	DB 1;	Length 172;
	Best Local Similarity	31.8%;	Pred. No. 1e-17;		
	Matches	57;	Conservative 34;	Mismatches 55;	Indels 33;
	Gaps				
QY	21	FIAGTSLDCNLLNVHLRRVTWONLRHLSSMSNFPVECLRENIAFELPOEFLOYTQPMK	80		
DB	2	YLSRKLMLDAR-----ENLKLLDRNRLSPHSCLODRKDFGLPQEMVEGDQLQK	50		
QY	81	RDIKKAFYEMSLQAFNIF-SOHTFYKWKERHLKIQIGLDDQABEYNOC----	LEEDENE 135		
DB	51	DQAFPPVLYEMLQGSFNLFYTEHSAAWDTLLLEQLCTGLQQQLDHLDTCRGQVMEEDSE	110		
QY	136	NEDMKEMKENMPSEARVPQLSSLELRRYFHRIDNFLKPKKYSDCAWELIVRVEIRCL	194		
DB	111	IGNWDPT-----VTVKQYFOGTYIDYLOEKGYSDCAWEIVRVEIRMMAL	152		

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RESULT 15
US-08-443-883A-2
; Sequence 2, Application US/08443883A
; Patent No. 5738845
; GENERAL INFORMATION:
; APPLICANT: Bazer, Fuller W.
; APPLICANT: Johnson, Howard M.
; APPLICANT: Pontzer, Carol H.
; APPLICANT: Ott, Troy L.
; APPLICANT: Van Heeke, Gino
; APPLICANT: Imakawa, Kazuhito
; TITLE OF INVENTION: Interferon T
; TITLE OF INVENTION: Methods of U
; NUMBER OF SEQUENCES: 44

```


GenCore version 4.5
Copyright (c) 1993 - 2000 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: October 19, 2001, 14:44:24 ; Search time 20.68 Seconds
(without alignments)
606.826 Million cell updates/sec

Title: US-09-487-792-2

Perfect score: 1101

Sequence: 1 MSTKPDMIQKCLWEILMGI.....VEIRRCLYFYKFTALPRK 207

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 412676 seqs, 60623988 residues

Total number of hits satisfying chosen parameters: 412676

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : A_Geneseq_0601.*

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21: /SIDS8/qcgdata/geneseq/AA2000.DAT.*
22: /SIDS8/qcgdata/geneseq/AA2001.DAT.*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	1101	100.0	207	21	AAY68800
2	1101	100.0	207	22	AAB49774
3	375.5	34.1	238	22	AAB49775
4	375.5	34.1	245	22	AAB49778
5	293.5	26.7	199	21	AAB18676
6	248.5	22.6	217	2	AAP10043
7	248	22.5	195	22	AAB49783
8	246.5	22.4	187	3	AAP10016
9	246.5	22.4	187	3	AAP20026
10	246.5	22.4	187	15	AAK56987
11	246.5	22.4	187	19	AAW61154

12	246.5	22.4	187	20	AAY05380	Human HCMV inducib
13	246.5	22.4	187	22	AAB49776	Human interferon b
14	245.5	22.3	187	16	AAR82608	IFN-beta (Phe101).
15	245.5	22.3	195	13	AAR24943	Sequence of ovine
16	245	22.3	195	11	AAR04539	cDNA clone of sequ
17	243.5	22.1	166	6	AAP50194	Modified human int
18	243.5	22.1	187	3	AAP20049	Interferon-beta ge
19	242.5	22.0	166	6	AAP50193	Modified human int
20	242.5	22.0	195	11	AAR04540	Ovine trophoblast
21	241.5	21.9	172	22	AAB31467	An ovine interfero
22	240.5	21.8	195	13	AAR24941	Sequence of ovine
23	240.5	21.8	195	13	AAR24942	Sequence of ovine
24	240.5	21.8	195	13	AAR24945	Sequence of ovine
25	239.5	21.8	195	16	AAR66198	E.coli SHII leader
26	239	21.7	196	22	AAB49784	Ovi TP-1 amino aci
27	238.5	21.7	195	7	AAP60253	Interferon-omega-1
28	238.5	21.7	195	13	AAR24944	Sequence of ovine
29	238.5	21.7	195	20	AAY22635	Human interferon-o
30	238.5	21.7	195	21	AAB13433	Human interferon o
31	236.5	21.5	172	22	AAB31461	An ovine interfero
32	236.5	21.5	172	22	AAB31464	An ovine interfero
33	236.5	21.5	172	22	AAB31468	Human complete int
34	236	21.4	195	17	AAW09288	Human interferon t
35	236	21.4	195	18	AAW44106	Ovine trophoblast
36	235.5	21.4	172	11	AAR09294	Sheep interferon-t
37	235.5	21.4	172	15	AAR54768	Ovine tau interfe
38	235.5	21.4	172	17	AAR99397	Mature ovine inter
39	235.5	21.4	172	18	AAW44110	Mature ovine inte
40	235.5	21.4	172	18	AAW31698	Amino acid sequenc
41	235.5	21.4	172	22	AAB31457	An ovine interfero
42	235.5	21.4	172	22	AAB31462	An ovine interfero
43	235.5	21.4	172	22	AAB31465	An ovine interfero
44	235.5	21.4	172	22	AAB31466	An ovine interfero
45	234.5	21.3	172	22	AAB31459	An ovine interfero

ALIGNMENTS

```
RESULT 1
AAV68800
ID AAV68800 standard; Protein; 207 AA.
XX
AC AAV68800;
XX
DT 16-MAY-2000 (first entry)
XX
DE Amino acid sequence of a keratinocyte derived interferon (KDI).
XX
KW Human; keratinocyte derived interferon; KDI; interferon; IFN; IFN-omega;
KW tumour suppressor; antiviral; natural killer cell activation;
KW immune system enhancement; viral infection; AIDS; viral hepatitis;
KW viral encephalitis; cancer; autoimmune disease; arthritis;
KW multiple sclerosis; diabetes; allergy.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Peptide 1..27 "signal peptide; specifically claimed in
FT /note= claim 14"
FT Protein 28..207
FT /note= "mature protein; specifically claimed in
FT claim 14"
FT Region 49..54
FT /note= "epitope-bearing portion of KDI; specifically
FT claimed in claim 15"
FT Region 59..65
FT /note= "epitope-bearing portion of KDI; specifically
FT claimed in claim 15"
FT Region 78..88
FT /note= "epitope-bearing portion of KDI; specifically
FT claimed in claim 15"
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FT Region 101..113 claimed in claim 15"
FT /note= "epitope-bearing portion of KDI; specifically
FT claimed in claim 15"
FT Region 120..123
FT /note= "epitope-bearing portion of KDI; specifically
FT claimed in claim 15"
FT Region 128..155
FT /note= "epitope-bearing portion of KDI; specifically
FT claimed in claim 15"
FT Region 160..168
FT /note= "epitope-bearing portion of KDI; specifically
FT claimed in claim 15"
FT Region 165..183
FT /note= "signature sequence for interferons"
FT 171..180
FT /note= "epitope-bearing portion of KDI; specifically
FT claimed in claim 15"
FT Region 186..193
FT /note= "epitope-bearing portion of KDI; specifically
FT claimed in claim 15"
FT Region 204..207
FT /note= "epitope-bearing portion of KDI; specifically
FT claimed in claim 15"
XX WO200005371-A1.
XX 03-FEB-2000.
XX
PF 21-JUL-1999; 99WO-US16424.
XX
PR 21-JUL-1998; 98US-0093643.
XX
XX (HUMA-) HUMAN GENOME SCI INC.
XX
PI Ruben SM, Moore PA, Lafleur DW;
XX WPI; 2000-182698/16.
DR N-PSDB; AAZ60585.
XX
PT Novel human gene encoding an interferon family polypeptide useful as a
PT probe and for producing the polypeptide, useful for treating viral
PT infections -
XX
PS Claim 14; Fig 1; 81pp; English.
XX
CC The present sequence represents a human keratinocyte derived interferon
CC (KDI) polypeptide. The KDI protein shares sequence homology with many
CC members of the interferon family, especially with the translation
CC product of the human mRNA for interferon (IFN)-omega. KDI is expressed
CC mainly in keratinocytes, dendritic cells and monocytes. Stimulation of
CC keratinocytes with tumour necrosis factor (TNF)-alpha or PolyIC
CC (stimulating viral infection) specifically and rapidly stimulates
CC overexpression of the KDI transcript. KDI is expected to have tumour
CC suppressor properties, antiviral activities, natural killer cell
CC activation properties, and immune system enhancement properties.
CC Pharmaceutical compounds comprising KDI are useful for treating viral
CC infections, e.g. AIDS, viral hepatitis and viral encephalitis. KDI is
CC also useful in treating cancer, autoimmune diseases, arthritis,
CC multiple sclerosis, diabetes and allergies.
XX
SQ Sequence 207 AA;

Query Match 100.0%; Score 1101; DB 21; Length 207;
Best Local Similarity 100.0%; Pred. No. 1.1e-98;
Matches 207; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MSTKPDMTQKCLWLIELMGIFIAGTLSLDCNLLNVHLRRVTWQNLRLHLSMSNSFPVECL 60
Db 1 mstkpdmtqkclwlleilmgifiagtlsldcnllnvhlrrvtwqnlrlhlsmsnsfpvecl 60
Qy 61 RENTAFELPQEFLOYTPQMKDKIKAFYEMSLQAFNIFSQHTFYKWKERHLKQIQIGLDQ 120

Db 61 reniatfelpqefloytpmqkdkikafyemslqafnifsqhtfkywkerhlkqiqigldq 120
Qy 121 QAEYLQCLEEDENEDMKEMKENEMKSEARVPQISLELRYPHRIDNFKKKYSD 180
Db 121 qaeylqcleedenedmkemkenempsearvpqlsslelrryhrldnflkekkyd 180
Qy 181 CAWEIVRVEIRRCLYFYFKFTALFRKK 207
Db 181 caweivrvairrclyfykftalfrkk 207
RESULT 2
AAB49774
ID AAB49774 standard; Protein; 207 AA.
XX
AC AAB49774;
XX
DT 23-APR-2001 (first entry)
XX
DE Keratinocyte derived interferon (KDI) protein sequence.
XX
KW Human; keratinocyte derived interferon; KDI; viral infection; lymphoma;
KW immune system related disorder; cancer; multiple sclerosis; AIDS;
KW hepatitis; Cryptosporidium parvum infection; leukaemia; arthritis;
KW diabetes; allergy; chronic myelogenous leukaemia; chromosome 9.
XX
OS Homo sapiens.
XX
PN WO200107608-A1.
XX
PD 01-FEB-2001.
XX
PF 20-JAN-2000; 2000WO-US01239.
XX
PR 21-JUL-1999; 99US-0358587.
PR 21-JUL-1999; 99WO-US16424.
XX
PA (HUMA-) HUMAN GENOME SCI INC.
XX
PI Ruben SM, Moore PA, Lafleur DW;
XX WPI; 2001-138557/14.
DR N-PSDB; AAF72333.
XX
PT Isolated keratinocyte derived interferon protein and polynucleotide
PT used to prevent, treat or ameliorate an immune system-related disorder,
PT viral infection, viral exposure and cancer -
XX
PS Claim 14; Fig 1; 303pp; English.
XX
CC This invention relates to human polynucleotide sequence AAF72333 which
CC encodes keratinocyte derived interferon (KDI) protein AAB49774, which is
CC a member of the interferon family. AAF72338 represents the codon
CC optimised sequence of KDI. The human KDI gene is located on chromosome 9.
CC The specification includes KDI related protein sequences
CC AAB49775 - AAB49789. Also given in the specification are primer, probe
CC and polynucleotide sequences represented by AAF72334-AAF72370 (excluding
CC AAF72338) which are used in the isolation and characterisation of the KDI
CC sequence of the invention. The KDI polypeptide is used to treat viral
CC infections and the protein and polynucleotide may be used to prevent,
CC treat or ameliorate a medical condition such as immune system-related
CC disorder, viral infection, viral exposure and cancer in a mammal.
CC Specific disorders which can be treated by KDI include multiple
CC sclerosis, lymphoma, acquired immune deficiency syndrome, viral
CC hepatitis, Cryptosporidium parvum infection, chronic myelogenous
CC leukaemia, arthritis, diabetes and allergies.
XX
SQ Sequence 207 AA;

Query Match 100.0%; Score 1101; DB 22; Length 207;
Best Local Similarity 100.0%; Pred. No. 1.1e-98;

Matches	207;	Conservative	0;	Mismatches	0;	Indels	0;	Gaps	0;
QY	1	MSTKPDMIQKCLWLEIMGIFIAGTLSLDCNLNLNVHLRVWQNLRLSSMSNFPVECL	60						
Db	1	mstkpdmiqkclwleimgifiagtlslsdcnlcnlnvhlrvwtqnlrlhslssmsnfpvecl	60						
QY	61	RENIAFELPQEFLOYTPMKRDIKAFYEMSLQAFNIFSOHTPKYKWERHLKIQIGLDQ	120						
Db	61	reniafelpqefloytpmkrdikkafyemslqafnifsghtfkwykerhlkqiqigldq	120						
QY	121	QAEYLNQCLEEDENEDMKENEMKPESEARVPOLSSLELRRYFHRIDNFKLKKYSD	180						
Db	121	qaeynlncleedenenedmkemkpearvpqlsslelrryfridnflkkykysd	180						
QY	181	CAMEIVRVEIRRCLYFYKFTALFRK	207						
Db	181	cawelvrveirrclyfykftalfrrk	207						
RESULT	3								
AAB49775									
ID	AAB49775	standard; Protein; 238 AA.							
XX	AC	AAB49775;							
XX	DT	23-APR-2001 (first entry)							
XX	DE	Human interferon omega amino acid sequence.							
XX	KW	Human; keratinocyte derived interferon; KDI; viral infection; lymphoma;							
XX	KW	immune system related disorder; cancer; multiple sclerosis; AIDS;							
XX	KW	hepatitis; Cryptosporidium parvum infection; leukaemia; arthritis;							
XX	KW	diabetes; allergy; chronic myelogenous leukaemia.							
XX	OS	Homo sapiens.							
XX	PN	WO200107608-A1.							
XX	PD	01-FEB-2001.							
XX	PF	20-JAN-2000; 2000WO-US01239.							
XX	PR	21-JUL-1999; 99US-0358587.							
XX	PR	21-JUL-1999; 99WO-US16424.							
XX	PA	(HUMA-) HUMAN GENOME SCI INC.							
XX	PI	Ruben SM, Moore PA, LaFleur DW;							
XX	DR	WPI; 2001-138557/14.							
XX	PT	Isolated keratinocyte derived interferon protein and polynucleotide							
XX	PT	used to prevent, treat or ameliorate an immune system-related disorder,							
XX	PT	viral infection, viral exposure and cancer -							
XX	PS	Disclosure; Fig 4; 303pp; English.							
XX	CC	This invention relates to human polynucleotide sequence AAF72333 which							
XX	CC	encodes keratinocyte derived interferon (KDI) protein AAB49774, which is							
XX	CC	a member of the interferon family. AAF72338 represents the codon							
XX	CC	optimised sequence of KDI. The human KDI gene is located on chromosome 9.							
XX	CC	The specification includes KDI related protein sequences							
XX	CC	AA849775 - AAB49789. Also given in the specification are primer, probe							
XX	CC	and polynucleotide sequences represented by AAF72334-AAF7370 (excluding							
XX	CC	AA72338) which are used in the isolation and characterisation of the KDI							
XX	CC	sequence of the invention. The KDI polypeptide is used to treat viral							
XX	CC	infections and the protein and polynucleotide may be used to prevent,							
XX	CC	treat or ameliorate a medical condition such as immune system-related							
XX	CC	disorder, viral infection, viral exposure and cancer in a mammal.							
XX	CC	Specific disorders which can be treated by KDI include multiple							
XX	CC	sclerosis, lymphoma, acquired immune deficiency syndrome, viral							
XX	CC	hepatitis, Cryptosporidium parvum infection, chronic myelogenous							
XX	CC	leukaemia, arthritis, diabetes and allergies.							

XX	SQ	Sequence	238 AA;						
		Query Match	34.1%;	Score	375.5;	DB	22;	Length	238;
		Best Local Similarity	47.2%;	Pred. No.	1.5e-28;				
		Matches	85;	Conservative	23;	Mismatches	57;	Indels	15;
		Gaps							4;
QY	27	SLDCNLNVH--LRRVTWQNLRLSSMSNFPVECLRENIAFELPQEFLOYTPMKRDIK	84						
Db	21	slgcdlpqnhgllsrntlvllhqmrris--pfclckrrdrffqemvkgslqkqhvm	77						
QY	85	KAFYEMSLQAFNIF-SQHTFKYKWERHLKQIQIGLDQAEYLNQCLEEDENEDMKEMK	143						
Db	78	svlhemiqlqfslfhtersaawmtlldqihelhqqlhletcl-----lqvvg	128						
QY	144	ENEMKPESEARVPOLSSLELRRYFHRIDNFKLKKYSDCAWEIVRVEIRRCLYFYKFTAL	203						
Db	129	egesagaissvvpqlsslelrryfridnflkkykysdcaweivrrcrlfyfkykftal	188						
RESULT	4								
AAB49778									
ID	AAB49778	standard; Protein; 245 AA.							
XX	AC	AAB49778;							
XX	DT	23-APR-2001 (first entry)							
XX	DE	Human interferon omega amino acid sequence.							
XX	KW	Human; keratinocyte derived interferon; KDI; viral infection; lymphoma;							
XX	KW	immune system related disorder; cancer; multiple sclerosis; AIDS;							
XX	KW	hepatitis; Cryptosporidium parvum infection; leukaemia; arthritis;							
XX	KW	diabetes; allergy; chronic myelogenous leukaemia.							
XX	OS	Homo sapiens.							
XX	PN	WO200107608-A1.							
XX	PD	01-FEB-2001.							
XX	PF	20-JAN-2000; 2000WO-US01239.							
XX	PR	21-JUL-1999; 99US-0358587.							
XX	PR	21-JUL-1999; 99WO-US16424.							
XX	PA	(HUMA-) HUMAN GENOME SCI INC.							
XX	PI	Ruben SM, Moore PA, LaFleur DW;							
XX	DR	WPI; 2001-138557/14.							
XX	PT	Isolated keratinocyte derived interferon protein and polynucleotide							
XX	PT	used to prevent, treat or ameliorate an immune system-related disorder,							
XX	PT	viral infection, viral exposure and cancer -							
XX	PS	Disclosure; Fig 4; 303pp; English.							
XX	CC	This invention relates to human polynucleotide sequence AAF72333 which							
XX	CC	encodes keratinocyte derived interferon (KDI) protein AAB49774, which is							
XX	CC	a member of the interferon family. AAF72338 represents the codon							
XX	CC	optimised sequence of KDI. The human KDI gene is located on chromosome 9.							
XX	CC	The specification includes KDI related protein sequences							
XX	CC	AA849775 - AAB49789. Also given in the specification are primer, probe							
XX	CC	and polynucleotide sequences represented by AAF72334-AAF7370 (excluding							
XX	CC	AA72338) which are used in the isolation and characterisation of the KDI							
XX	CC	sequence of the invention. The KDI polypeptide is used to treat viral							
XX	CC	infections and the protein and polynucleotide may be used to prevent,							
XX	CC	treat or ameliorate a medical condition such as immune system-related							
XX	CC	disorder, viral infection, viral exposure and cancer in a mammal.							
XX	CC	Specific disorders which can be treated by KDI include multiple							
XX	CC	sclerosis, lymphoma, acquired immune deficiency syndrome, viral							
XX	CC	hepatitis, Cryptosporidium parvum infection, chronic myelogenous							
XX	CC	leukaemia, arthritis, diabetes and allergies.							

CC hepatitis, Cryptosporidium parvum infection, chronic myelogenous
CC leukaemia, arthritis, diabetes and allergies.
XX

SQ Sequence 245 AA;

Query Match 34.1%; Score 375.5; DB 22; Length 245;
Best Local Similarity 47.2%; Pred. No. 1.5e-28;
Matches 85; Conservative 23; Mismatches 57; Indels 15; Gaps 4;

QY 27 SLDCNLLNVH--LRRVTWQNLRLHSSMSNPPVCLRENIAFELPQEFLOYTQPMKRDIK 84
Db 21 slgcdlpqngllsrntvlvlhgmrriis---pfclckdrdrfrfpqemvkgsglqkahvm 77
QY 85 KAFYEMSLQAFNIF--SOTFKYKERHLKQIQIGLDOQAAYLNOCLEDEENEDMKEMK 143
Db 78 svlhemiqqifslfhtersaawmtldqlhtelhqqlhletcl-----lqvvg 128
QY 144 ENEMKPEARVPQLSSLELRYFHRIDNFKLKKYSDCAEIVRRCILYFYKFTAL 203
Db 129 egesagaissvpqlsslelrryfridnflkekysdcaweivrrrcilyfykftal 188

RESULT 5

AAB18676
ID AAB18676 standard; Protein; 199 AA.
AC AAB18676;

22-JAN-2001 (first entry)

A murine interferon-alpha polypeptide designated zcytol3.

KW Mouse; interferon-alpha; zcytol3; chromosome 4; framework marker D4Mit94;
KW viral infection; tumour cell; gene therapy.

OS MUS SP.

FH Key Location/Qualifiers
FT Peptide 1..21
FT /note= "signal peptide"
FT Region 22..45
FT /note= "Helix A"
FT Region 46..64
FT /note= "AB loop"
FT Region 65..89
FT /note= "Helix B"
FT Region 90..98
FT /note= "BC loop"
FT Region 99..124
FT /note= "Helix C"
FT Region 125..133
FT /note= "CD loop"
FT Region 134..155
FT /note= "Helix D"
FT Region 156..160
FT /note= "DE loop"
FT Region 161..188
FT /note= "Helix E"

XX WO20005324-A1.

XX 21-SEP-2000.

XX 17-MAR-2000; 2000WO-US06993.

XX 18-MAR-1999; 99US-0271839.

XX 23-SEP-1999; 99US-0405545.

XX (ZYMO) ZYMOGENETICS INC.

XX Presnell SR, Feldhaus AL, Gao Z;

XX

DR WPI; 2000-647073/62.
DR N-PSDB; AAA75718.

XX Novel murine interferon-alpha, zcytol3, useful for treating autoimmune
XX diseases, certain cancers and enhancement of immune response against
XX infectious agents and also in diagnosis of the disorders -
PS Claim 8; Page 3; 110pp; English.

XX The present sequence represents a murine interferon-alpha polypeptide,
CC designated zcytol3. The zcytol3 gene is mapped to mouse chromosome 4
CC (framework marker D4Mit94, located at 4.6 centimorgans). The zcytol3
CC polypeptide is useful for inhibiting viral infection of cells and
CC inhibiting proliferation of tumour cells. The nucleic acid molecules
CC encoding the zcytol3 polypeptides are useful as probes for in vivo
CC diagnosis and as primers. Anti-zcytol3 antibodies are used to screen
CC biological samples in vitro for the presence of zcytol3 and for
CC detecting zcytol3 in tissue sections prepared from a biopsy specimen.
CC The nucleic acid molecules encoding the zcytol3 protein are also
XX useful in gene therapy.

SQ Sequence 199 AA;

Query Match 26.7%; Score 293.5; DB 21; Length 199;
Best Local Similarity 35.5%; Pred. No. 9.6e-21;
Matches 71; Conservative 31; Mismatches 83; Indels 15; Gaps 3;

QY 7 MIQKCLWEILMGIFAGTSLDCNLLNVHLRRVTWQNLRLHSSMSNPPVCLRENIAF 66
Db 1 mtpclwlvvalvlyppigslnc---vylodslenvkllgstmtgfpclckldtfd 56

QY 67 ELPQEFLOYTQPMKRDIKKAFYEMSLQAFNIFS-QHTFKYKERHLKQIQIGLDOQAAYL 125
Db 57 kfpkeilpyiqhmkreinavsyrrisslaltfnlkgslppvteeheerirsglfgkvrqa 116

QY 126 NOCLEDEENEDMKEMKPEARVPQLSSLELRYFHRIDNFKLKKYSDCAWEI 185
Db 117 qecfndeekenrehphsedf-----ltvylelgyfrfrikklfinkysfcawki 166

QY 186 VRVEIRRCILYFYKFTALFR 205
Db 167 vtveirrcilfiskrklk 186

RESULT 6

AAP10043
ID AAP10043 standard; Protein; 217 AA.

AC AAP10043;

DT 14-AUG-1992 (first entry)

XX Sequence of human fibroblast interferon which is derived from a
XX combination of the data from at least two of the plasmids pHEIF1-13.

XX Viral infection; therapy; cancer; tumour.

XX Homo sapiens.

XX Key Location/Qualifiers
XX Peptide 21..1

XX /label= signal
XX /note= "the mature peptide and the combined signal
XX and mature peptide are claimed"

XX EP41313-A.

XX 09-DEC-1981.

XX 01-APR-1981; 81EP-0301414.

XX 06-JUN-1980; 80GB-0018701.

```
PR 03-APR-1980; 80GB-0011306.
XX (BIOG-) BIOGEN NV.
XX Fiers WC;
XX WPI; 1981-93390D/51.
DR N-PSDB; AAN10038.
XX DNA sequences, recombinant DNA molecules transformed hosts etc. -
PT for prodn. of antiviral and anticancer polypeptide(s) (NO
PT 26.10.81)
XX
XX Claim 19; Fig 4; 118pp; English.
XX
XX The inventors claim a DNA sequence consisting of the DNA inserts of
CC G-PBR322(Pst)/HFI1, /HFI3, /HFI6 or /HFI7 and DNA sequences
CC which hybridise any of these 4 inserts. A polypeptide or its
CC fragments and derivs. showing an immunological or biological
CC activity of human fibroblast interferon produced by the transformed
CC host is also claimed. The polypeptide is useful for treating viral
CC infections, cancers or tumours in humans, or for treating bovine
CC viral infections.
XX
XX Sequence 217 AA;
SQ
Query Match 22.6%; Score 248.5; DB 2; Length 217;
Best Local Similarity 31.1%; Pred. No. 2.4e-16;
Matches 70; Conservative 32; Mismatches 88; Indels 35; Gaps 6;
QY 7 MIQKCLWLEILMGIFITAGTSLDCNLL-----NVHLRRVTWQNLRLSSMSNPPVEC 59
DB 1 mnkcllqiallicsttalsmsynllgfrssnfcqkllw-----Ingrleyc 52
QY 60 LRENIAFELPQEFLOYTQPMKDIRKAFYEMSLQAFNIFESQHTFKY-WKERHLKQIQIGL 118
DB 53 lkdrnmfdipeeikqlqgfkedaaltiyemlqnifaifrqdsstsgwnetivenllanv 112
QY 119 DQQAAYLNQCLEEDENENED-----MKEMKENEMKPSE-ARVPOLSSL 160
DB 113 yqinhlktvlee-klekedftivenllanvyhqinhlktvleeklekedftrgkmssl 171
QY 161 ELRRYFHRIDNFKKKYSDCAWEIVRVEIRCLYFYFKFTALFR 205
DB 172 hkyrygrilhylkakeyshcawtivrveilrnfynfinitgyrl 216
RESULT 7
AAB49783
ID AAB49783 standard; Protein; 195 AA.
XX
XX AAB49783;
XX
XX 23-APR-2001 (first entry)
DE Bovine TP-1 amino acid sequence.
XX
XX Human; keratinocyte derived interferon; KDI; viral infection; lymphoma;
KW immune system related disorder; cancer; multiple sclerosis; AIDS;
KW hepatitis; Cryptosporidium parvum infection; leukaemia; arthritis;
XX diabetes; allergy; chronic myelogenous leukaemia.
XX
XX Bos sp..
XX WO200107608-A1.
XX
XX 01-FEB-2001.
XX
XX 20-JAN-2000; 2000WO-US01239.
XX
XX 21-JUL-1999; 99US-0358587.
PR 21-JUL-1999; 99WO-US16424.
XX
```

```
XX (HUMA-) HUMAN GENOME SCI INC.
XX
XX Ruben SM, Moore PA, LaFleur DW;
XX WPI; 2001-138557/14.
XX
XX Isolated keratinocyte derived interferon protein and polynucleotide
PT used to prevent, treat or ameliorate an immune system-related disorder,
PT viral infection, viral exposure and cancer -
XX
XX Disclosure; Fig 4; 303pp; English.
XX
XX This invention relates to human polynucleotide sequence AAF72333 which
CC encodes keratinocyte derived interferon (KDI) protein AAB49774, which is
CC a member of the interferon family. AAF72338 represents the codon
CC optimised sequence of KDI. The human KDI gene is located on chromosome 9.
CC the specification includes KDI related protein sequences
CC AAB49775 - AAB49789. Also given in the specification are primer, probe
CC and polynucleotide sequences represented by AAF72334-AAF72370 (excluding
CC AAF72338) which are used in the isolation and characterisation of the KDI
CC sequence of the invention. The KDI polypeptide is used to treat viral
CC infections and the protein and polynucleotide may be used to prevent,
CC treat or ameliorate a medical condition such as immune system-related
CC disorder, viral infection, viral exposure and cancer in a mammal.
CC Specific disorders which can be treated by KDI include multiple
CC sclerosis, lymphoma, acquired immune deficiency syndrome, viral
CC hepatitis, Cryptosporidium parvum infection, chronic myelogenous
CC leukaemia, arthritis, diabetes and allergies.
XX
XX Sequence 195 AA;
SQ
Query Match 22.5%; Score 248; DB 22; Length 195;
Best Local Similarity 35.1%; Pred. No. 2.3e-16;
Matches 65; Conservative 28; Mismatches 74; Indels 18; Gaps 5;
QY 14 LEILMGIFIAG---TSLDCNLLNVHLRRVTWQNLRLSSMSNPPVCLRENIAFELPQ 70
DB 5 lslmalvlysygprsglcyisedhmlgar-enlrllarmnrishpqlqdkrfgipq 63
QY 71 EFLQYTPMKRDIKAFYENSLQAFNIF-SQHTFKYWKERHLKQIQIGLDOQAAYLNQCL 129
DB 64 emvegndqlkdqaisvhemlqqcfnlifytshsaawnttlleqlctglqqledacl 123
QY 130 EEDENENEDMKEMKENEMKPSEARVPOLSSLRLRRYFHRIDNFKKKYSDCAWEIVRVE 189
DB 124 gpyvme---kdsdmgrmgp-----iltvkkfygghvlylkekeysdcaweilrme 170
QY 190 IRRCL 194
DB 171 mmral 175
RESULT 8
AAB10016
ID AAP10016 standard; Protein; 187 AA.
XX
XX AAP10016;
XX
XX 19-OCT-1992 (first entry)
DE Sequence of fibroblast interferon and its putative signal
XX peptide encoded by plasmid TpiF 319-13.
XX
XX Interferon; antiviral agent.
XX
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX Peptide 1..21
XX /label= signal
XX
```

PN EP28033-A.
 XX
 PD 06-MAY-1981.
 XX
 PF 30-OCT-1980; 80EP-0106685.
 XX
 PR 19-MAR-1980; 80JP-0033931.
 XX
 PR 30-OCT-1979; 79JP-0139289.
 XX
 PA (NICA-) JAPANESE CANCER RES.
 XX
 XX Sugano H, Muramatsu M, Taniguchi T;
 PI WPI; 1981-34772D/20.
 XX N-PSDB; AAN10009.
 DR
 XX DNA coding for poly:peptide with interferon activity - useful in
 PT prepn. of human interferon in large amounts
 PT
 XX Example; Table 5, Page 18; 22pp; English.
 PS
 XX The inventors claim recombinant plasmid TPIF 319-13 which contains
 CC cDNA (AAN10009) prepd. from mRNA extracted from human fibroblasts.
 CC TPIF 319-13 transformed in E. coli has been deposited under
 CC accession number ATCC 31712, which is claimed.
 XX
 SQ Sequence 187 AA;
 5;
 Query Match 22.4%; Score 246.5; DB 2; Length 187;
 Best Local Similarity 32.9%; Pred. No. 3.1e-16;
 Matches 68; Conservative 26; Mismatches 84; Indels 29; Gaps 5;
 QY 7 MIOKCLWLEILMGIFAGTSLDCNLL-----NVHLRRVTWQNLRLHLSMSNSFPVEC 59
 Db 1 mtnkcllqiallfcsttalsmsynllgflqrsnfqcqkllwq-----lngrleyc 52
 QY 60 LRENTAFELPQEFLOYTPMKRDIKKAFYEMSLQAFNIFSQHTFKY-WKERHLKQIQIGL 118
 Db 53 lkdrrnfdipeeikqlgqfkedaaltiyemlqnifairqdsstgwnetivenllanv 112
 QY 119 DOQAEYLNQCLEEDENEDMKENEMKPEARVPQLSLELRRYFHRIDNFKLKKY 178
 Db 113 yhqinhltkvtlee-klekedf-----trgklmslhlkryygrilhyllakey 159
 QY 179 SDCAWEIVRVEIRCLYFYKFTALFR 205
 Db 160 shcawtirveillrnfyfinrltgyrlr 186
 RESULT 9
 AAP20026
 ID AAP20026 standard; Protein; 187 AA.
 XX
 AC AAP20026;
 XX
 DT 11-AUG-1992 (first entry)
 XX
 DE Human fibroblast interferon.
 XX
 KW Interferon; virucide; antitumor.
 XX
 OS Escherichia coli, Bacillus subtilis, Saccharomyces cerevisiae.
 XX
 PN EP48970-A.
 XX
 PD 07-APR-1982.
 XX
 PF 24-SEP-1981; 81EP-0107621.
 XX
 PR 11-AUG-1981; 81US-0291892.
 XX
 PR 25-SEP-1980; 80US-0190799.
 XX

PA (GENE-) GENENTECH INC.
 XX
 PI Crea R, Goeddel DVN;
 XX
 DR WPI; 1982-28974E/15 (28974E).
 DR N-PSDB; AAN20031.
 XX
 PT Microbially produced mature human fibroblast interferon - obtd.
 PT by using recombinant DNA coding for amino acid interferon
 PT sequences.
 XX
 PS Disclosure; Fig 3; 40pp; English.
 XX
 CC DNA encoding human interferon is expressed in large amounts in
 CC E. coli, B. subtilis or S. cerevisiae and used as a virucide or
 CC antitumour agent.
 XX
 SQ Sequence 187 AA;
 Query Match 22.4%; Score 246.5; DB 3; Length 187;
 Best Local Similarity 32.9%; Pred. No. 3.1e-16;
 Matches 68; Conservative 26; Mismatches 84; Indels 29; Gaps 5;
 QY 7 MIOKCLWLEILMGIFAGTSLDCNLL-----NVHLRRVTWQNLRLHLSMSNSFPVEC 59
 Db 1 mtnkcllqiallfcsttalsmsynllgflqrsnfqcqkllwq-----lngrleyc 52
 QY 60 LRENTAFELPQEFLOYTPMKRDIKKAFYEMSLQAFNIFSQHTFKY-WKERHLKQIQIGL 118
 Db 53 lkdrrnfdipeeikqlgqfkedaaltiyemlqnifairqdsstgwnetivenllanv 112
 QY 119 DOQAEYLNQCLEEDENEDMKENEMKPEARVPQLSLELRRYFHRIDNFKLKKY 178
 Db 113 yhqinhltkvtlee-klekedf-----trgklmslhlkryygrilhyllakey 159
 QY 179 SDCAWEIVRVEIRCLYFYKFTALFR 205
 Db 160 shcawtirveillrnfyfinrltgyrlr 186
 RESULT 10
 AAR56987
 ID AAR56987 standard; Protein; 187 AA.
 XX
 AC AAR56987;
 XX
 DT 17-FEB-1995 (first entry)
 XX
 DE Human fibroblast interferon beta-1.
 XX
 KW Fibroblast; interferon; antiviral; anti-tumour.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT Region 1..21
 FT /note= "Putative signal peptide."
 XX
 PN US5326859-A.
 XX
 PD 05-JUL-1994.
 XX
 PF 27-OCT-1980; 80US-0201359.
 XX
 PR 27-OCT-1980; 80US-0201359.
 XX
 PA (NICA-) JAPANESE FOUND CANCER RES.
 XX
 PI Muramatsu M, Sugano H, Taniguchi T;
 XX WPI; 1994-217099/26.
 DR N-PSDB; AAR56987.
 DR

```

XX New DNA encoding human fibroblast interferon beta 1 - as
PT precursor or mature protein, useful as antiviral and antitumour
PT agent, allowing large scale prepn of recombinant protein
XX
PS Claim 2; Columns 11-12; 11pp; English.
XX
CC This DNA sequence encoding the human fibroblast interferon beta 1
CC can be introduced to host cells e.g. E. coli and then expressed in
CC those cells, allowing large scale production of the recombinant
CC human fibroblast interferon beta 1 which exhibits antiviral and
CC anti-tumour activity.
XX
SQ Sequence 187 AA;

Query Match 22.4%; Score 246.5; DB 15; Length 187;
Best Local Similarity 32.9%; Pred. No. 3.le-16;
Matches 68; Conservative 26; Mismatches 84; Indels 29; Gaps 5;

QY 7 MIQKCLWLEILMGIFAGTSLDCNLL-----NVHLRRVTWQNLRLHLSMSNSFPVEC 59
DB 1 mtkcllqiallclsttalsmsynllglrssnfqckllwq-----Ingrleyc 52
QY 60 LRENIAPFLOEFLQYTOPMKRDIKKAFFVEMSLQAFNIFSOHTFKY-WKERHLKQIQIGL 118
DB 53 lkdrnmfdipeelkqlqfqedaaaliyemlqnifairqdsstgwnetivenllanv 112
QY 119 DQQAIEYLNQCLEEDENENEDMKEMKPKSEARVPQLSSLELRYFHRIDNFKKKY 178
DB 113 yhqinhktvlee-klekedf-----trgklmsslhkryygrilhykakey 159

QY 179 SDCAMEIVRVEIRRCLYFYKFTALFR 205
DB 160 shcawtivrvellrnfyfinrltgyr 186

RESULT 11
AAW61154
ID AAW61154 standard; Protein; 187 AA.
XX
AC AAW61154;
XX
DT 12-OCT-1998 (first entry)
XX
DE Human interferon beta-1.
XX
KW Interferon beta-1; human; RNA replicon; Sindbis virus.
XX
OS Homo sapiens.
XX
PN WO9826084-Al.
XX
PD 18-JUN-1998.
XX
PF 09-DEC-1996; 96WO-IB01394.
XX
PR 09-DEC-1996; 96WO-IB01394.
XX
PA (BAIL/) BAILEY J E.
XX (RENN/) RENNER W A.
XX
PI Bailey JE, Renner WA;
XX
DR WPI: 1998-348538/30.
XX N-PSDB; AAV36457.
XX
PT Nucleic acid encoding human interferon-beta 1 - useful for, e.g.
PT efficient and high level production of interferon-beta 1
XX
PS Disclosure; Fig 1; 26pp; English.
XX
CC This polypeptide comprises human interferon beta-1 (IFN beta-1).

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CC The invention relates to replicating RNA molecules (RNA replicons)
CC containing a sequence encoding IFN beta-1, and methods for their
CC utilisation for the production of biologically active IFN beta-1 in
CC mammalian cells in culture. A 767 bp HincII fragment (see AAV36457)
CC encoding the IFN beta-1 polypeptide has been cloned into the EcoRV
CC site of pBluescript KS-. A XbaI, ApaI fragment of the subclone was
CC ligated into Sindbis virus-based vector pSinRep5. The ligation
CC product was used to transform E. coli DH5 alpha. In vitro
CC transcription of linearised pSinRep5-IFN yielded IFN beta-1
CC recombinant RNA replicons. BHK cells having the IFN beta-1 RNA
CC replicon introduced by electroporation, and CHO cells infected with
CC the IFN beta-1 RNA replicon packaged in virion particles, produced
CC biologically active IFN beta-1. Thus, use of the RNA replicons
CC provides a high and efficient level of production of IFN beta-1.
CC Production can be implemented using different host cells, different
CC replicons, and bioactive hardware and operating protocols chosen
CC to maximise production of the preferred glycoform of active IFN
CC beta-1 for each cell line-vector combination.
XX
SQ Sequence 187 AA;

Query Match 22.4%; Score 246.5; DB 19; Length 187;
Best Local Similarity 32.9%; Pred. No. 3.le-16;
Matches 68; Conservative 26; Mismatches 84; Indels 29; Gaps 5;

QY 7 MIQKCLWLEILMGIFAGTSLDCNLL-----NVHLRRVTWQNLRLHLSMSNSFPVEC 59
DB 1 mtkcllqiallclsttalsmsynllglrssnfqckllwq-----Ingrleyc 52
QY 60 LRENIAPFLOEFLQYTOPMKRDIKKAFFVEMSLQAFNIFSOHTFKY-WKERHLKQIQIGL 118
DB 53 lkdrnmfdipeelkqlqfqedaaaliyemlqnifairqdsstgwnetivenllanv 112
QY 119 DQQAIEYLNQCLEEDENENEDMKEMKPKSEARVPQLSSLELRYFHRIDNFKKKY 178
DB 113 yhqinhktvlee-klekedf-----trgklmsslhkryygrilhykakey 159

QY 179 SDCAMEIVRVEIRRCLYFYKFTALFR 205
DB 160 shcawtivrvellrnfyfinrltgyr 186

RESULT 12
AAW05380
ID AAW05380 standard; Protein; 187 AA.
XX
AC AAW05380;
XX
DT 30-JUN-1999 (first entry)
XX
DE Human HCMV inducible gene protein, SEQ ID NO 33.
XX
KW HCMV inducible gene; cig; human; human cytomegalovirus; interferon;
KW anti-viral therapy; anti-HCMV therapy; detection; diagnosis;
KW drug screening.
XX
OS Homo sapiens.
XX
PN WO9913075-A2.
XX
PD 18-MAR-1999.
XX
PF 08-SEP-1998; 98WO-US18638.
XX
PR 22-SEP-1997; 97US-0059725.
XX 08-SEP-1997; 97US-0058180.
XX (UVPF-) UNIV PRINCETON.
XX
PI Cong J, Schenk T, Zhu H;
XX
DR WPI: 1999-243729/20.

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PF 13-MAR-1995; 95WO-US03206.
XX
PR 15-MAR-1994; 94US-0213448.
XX
PA (BIOJ) BIOGEN INC.
XX
PI Cate RL, Chow E, Goelz SE, Pepinsky R;
XX
DR WPI; 1995-336974/43.
DR N-PSDB; AAT03884.
XX

Interferon beta mutin having Phe, Tyr, Trp or His substid. for
PT Vall01 - used in compsns. to treat viral infections e.g. papilloma
PT virus, cancer or tumour, abnormal cell growth or for
PT immuno-modulation
XX

PS Disclosure; Page 35-36; 44pp; English.

XX An IFN-beta mutin has Val-101 (numbered according to wild-type
CC IFN-beta) replaced by Phe. The encoding DNA is obtd. by
CC site-directed mutagenesis or chemical synthesis, and allows expression
CC of the mutin in animal cells, pref. CHO-DDUKY-B1. The mutin has 2.5
CC times the specific activity, in antiviral assay, than recombinant
CC wild-type IFN-beta.
XX

SQ Sequence 187 AA;

Query Match 22.3%; Score 245.5; DB 16; Length 187;
Best Local Similarity 32.9%; Pred. No. 3.8e-16;
Matches 68; Conservative 26; Mismatches 84; Indels 29; Gaps 5;

QY 7 MIOKCLWLEILMGIFTAGTSLSDCNLL-----NVHLRRVTWQNLRLHSSMSNSPVEC 59
Db 1 mcnkellqallcftstalsynllglrssnfcqkllwq-----lngrleyc 52
QY 60. LRENIAFELPQFLOQTPMKRDIKAFYEMSLQAFNIFSQHTFKY-WKERHLKQIQIGL 118
Db 53 lkdrnmfdipeeklqkqkedaaltiyemlqnfafirgdsstgwnetivenillanv 112
QY 119 DQQAAYLNCLBEDEENEDMKEMKENEMKPEARVPQSLLELRYFHRIDNFKKKY 178
Db 113 yhqinhkfllee-klekedf-----trgklmslhlkryygrilhyllkakey 159
QY 179 SDCAWEIFRRCCLYFYKFTALPR 205
Db 160 shcawtivrvellrnfinrltgyrlr 186

RESULT 15

AAR24943
ID AAR24943 standard; Protein; 195 AA.

XX
AC AAR24943;

XX 03-JAN-1992 (first entry)

XX Sequence of ovine trophoblastin variant Xb.

XX Antiviral; antinflammatory; antitumour; immunomodulator; immunogen;
XX trophoblastin; antiluteolytic agent.

OS Ammotragus lervia.

XX Key Location/Qualifiers

FT Peptide 1..23

FT /label= signal

XX W09209691-A.

XX 11-JUN-1992.

XX 29-NOV-1991; 91WO-FR00953.

XX 29-NOV-1990; 90FR-0014945.
PR 29-NOV-1990; 90FR-0014946.
XX
XX (INRG) INRA INST NAT RECH AGRONOMIQUE.
PA (TRGE) TRANSGENE SA.
XX
XX Degryse E, Chaouat G, Charlier M, Charpigny G, Gaye P;
PI Martal J, Reinaud P;
PI
XX
XX WPI; 1992-217070/26.

XX New type I interferon variants with added N-terminal di-peptide -
PT include expression cassettes providing high yield in yeast, esp.
PT trophoblast derivs. with e.g. anti-luteolytic activity
XX

PS Claim 7; page 30; 53pp; French.

XX The DNA sequence encoding the precursor of ovine trophoblastin was
CC disclosed in PCR WO 89/08706 (see AAR24941). AAR24942-R24945 are
CC isoforms of trophoblastin. They have anti-luteolytic activity and
CC are used to improve survival of transplanted embryos; as a reagent
CC for detecting viability of embryos at an early stage of its
CC development; and to improve the fertility of livestock.
XX

SQ Sequence 195 AA;

Query Match 22.3%; Score 245.5; DB 13; Length 195;
Best Local Similarity 31.9%; Pred. No. 4e-16;
Matches 58; Conservative 35; Mismatches 56; Indels 33; Gaps 4;

QY 18 MGIFIACTLSLDCNLLNVHLRRVTWQNLRLHSSMSNSPVECLRENIAFELPQFLOQYTQ 77
Db 22 lgcylserimldar-----enklldrmnrishpsclqqrkkgfqlpqemvegq 70
QY 78 PMKRDIIKAFYEMSLQAFNIF-SQHTFKYKERHLKQIQIGLQQAAYLNQC-----LEED 132
Db 71 dlkdqafpviyemlqqsfnlftyehsaaawdtllldqictgllqqlldhldtcrqgmgee 130
QY 133 ENENEDMKEMKENEMKPEARVPQSLLELRYFHRIDNFKKKYSDCAWEIVRVEIRR 192
Db 131 dselgnmdpi-----vtvkkkyfglydyiqekgysdcaweiivrvmnr 173

QY 193 CL 194

Db 174 al 175

Search completed: October 19; 2001, 14:44:54

Job time: 30 sec

